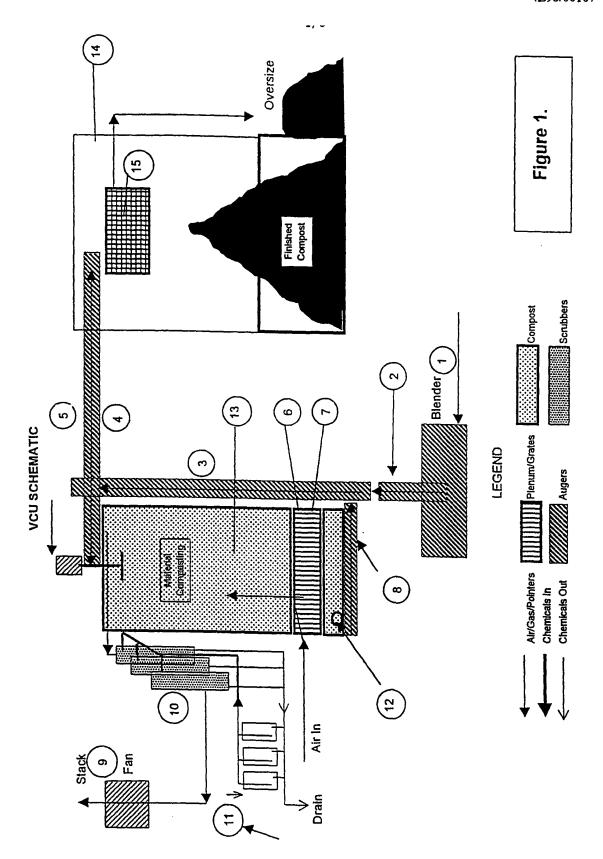
Inventor: BROWN et al.
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Table 1a.

VCU IN VESSEL COMPOST SYSTEM Physical And Thermodynamic Model

VCU # Panels (One Side) Putrescible % of Total Putrescible % Solids (w/w)	2.2 m 50 % 25 %	VCU MODEL 20S			
Greenwaste Moisture Content	50 %	Client:			
Primary Chamber Output MC	30 %				
Bulk Density Greenwaste Input	0.30				
Density Sludge Dry Solids	0.83	NSW University			
Ambient Temperature	14 Deg C	ļ			
Column Zone Temperatures					
Zone A Temp(Measured)	80 Deg C	Code: UNI			
Zone B Temp(Measured)	75 Deg C	File Version: 2			
Zone C Temp(Measured)	67 Deg C				
Zone D Temp(Measured)	45 Deg C	Column Hgt 5 m			
Ultimate Analysis For C & H		Product MC 45 %			
Carbon %	49 %	Condensate 8 L/m3/day			
Hydrogen %	9 %	Cycle Time 14 Days			
Average Temperature Rise	52.75 DegC	126.95 Degf			
Ambient	14 DegC	57.2 Degf			

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Table 1b. VCU IN VESSEL COMPOST SYSTEM

		J 001 0101	F-141		
		VCU DATA			
Volume (Main Chamber)	24	m3	24	m3	1.73
Daily Mass Greenwaste (wet)	1,162	fbs	519		(m3/day)
Daily Mass Sludge (wet)	1,162	ibs	519		(
Daily Mass Total (Wet)	2,323		1,037		
Plenum Loading	3.24			Kg/cm2	Total Ground
Mass of Water	1,452	*	648	-	Loading(kg)
Dry Mass Total	871		389	-	13,501
Overall Moisture Content	62.50	% (w/w)		% (w/w)	13,301
Total Energy In Column	2,773,766		2,926		31,213
Energy Use (Heating/Evaporation)	81,519			Kw/hr	
Oxygen For Microbe Energy	25.36		11.32		67,932
Oxygen Excess		lbs/hr		Kg/hr	
Total Oxygen In	26.12		11.66		
Nitrogen In		lbs/hr		Kg/hr	
Total Air Required	124.39		55.53		
Specific Air Volume Per Hour		scf/m3		scm/m3	634
Fan Spec @ 3" swg	42.63			scm/min	
Daily Water Input		lbs/day		Kg/day	0.05
Daily Water Evaporation		lbs/day		Kg/day Kg/day	F 0F 0/
Daily OD Solids Loss		lbs/day		Kg/day Kg/day	5.65%
Predicted Stack Temperature		Degf		DegC	1.34%
Column Velocity	0.842	-		m/min	
Column Velocity	0.014			m/sec	
OD Solids Loss Rate		lbs/hr			
OD Solids Loss		lbs/m3/Day		Kg/hr	
Water Reduction		•		kg/m3/D	
Daily Drop		lbs/m3/Day		kg/m3/D	
Daily Drop	1.53	m3 (Est)	452	kg	
Check Digits	355.13	0.158			6.79
Microbe Fuel Consumed	lbs/hr	moles	scfm	acfm	
(Primary Chamber)	103/11	moles	SCIIII	acım	
Carbon	5.435	0.453			
Hydrogen					
Oxygen Required		0.079	4 740	5 000	0
Excess Oxygen			4.742		
(Evaporation) H2O		0.024	0.142		0.44%
(Oxidation) H2O	-		15.907		
CO2			3.613		
			1.971		
N2 Stack Products From Oxidation			20.999		
Stack Floudets From Oxidation	172.246	7.125	42.632	48.220	<u> </u>